REMARKS/ARGUMENTS

STATUS OF THE CLAIMS

Claims 1-41 are pending. Applicants respectfully request reexamination and reconsideration of Claims 1-41 in light of the following remarks.

CLAIM REJECTIONS – 35 U.S.C. § 103

Independent Claims 1 and 16

Claims 1 and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,475,384 ("Manenti") in view of IEEE Standard No. 1451.2-1997 ("the IEEE Std").

Claims 1 and 16 require, among other things, "each transducer signature identifying a transducer type," and "a processor...to identify the transducer type using the transducer signatures."

As noted by the Examiner on page 5 of the Office action, Manenti does not teach or suggest using a transducer signature to identify a transducer type, a processor that identifies the transducer type using the transducer signature, or a processor that processes the environmental characteristic using the transducer signature.

The IEEE Std does not cure the deficiencies of Manenti. The IEEE Std generally describes a digital interface for connecting transducers to microprocessors and a transducer electronic data sheet ("TEDS") format. The IEEE Std states as follows:

> This standard defines a digital interface for connecting transducers to microprocessors. It describes a TEDS and its data formats. It defines an electrical interface, read and write logic functions to access the TEDS, and a wide variety of transducers. This standard does not specify signal conditioning, signal conversion, or how the TEDS data is used in applications.

(IEEE Std, page 2, 1.1 Scope.)

More specifically, the IEEE Std teaches the use of a universal unique identification (UUID), which is an identification field associated with each individual smart transducer

interface module (STIM). The value of the UUID for each individual STIM is unique in the universe (*i.e.*, each STIM that is sold has its own UUID). The UUID includes four subfields, namely a location field, a manufacture's field, a year field, and a time field. (IEEE Std, page 16, 3.3.9 Universal unique identification.) However, none of these four fields includes a broader category that identifies the type of transducer (*e.g.*, pH, oxidation reduction potential, dissolved oxygen, etc.). If the UUID of the IEEE Std is the "transducer signature" of Claims 1 and 16, the UUID does not identify a transducer type. As a result, the IEEE Std does not teach or suggest "each transducer signature identifying a transducer type," or "a processor...to identify the transducer type using the transducer signatures."

Neither Manenti nor the IEEE Std, alone or in combination, teaches or suggests "each transducer signature identifying a transducer type," or "a processor...to identify the transducer type using the transducer signatures," as required by Claims 1 and 16. Accordingly, independent Claim 1, dependent Claims 2-15, independent Claim 16, and dependent Claims 17-28 are allowable.

Dependent Claims 2-15 and 17-28

Claims 2-15 and 17-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Manenti in view of the IEEE Std. Claims 2-15 depend from Claim 1 and Claims 17-28 depend from Claim 16, and are therefore allowable for the reasons set forth above with respect to Claims 1 and 16. Claims 2-15 and 17-28 specify additional patentable subject matter not specifically discussed herein.

Independent Claim 29

Claim 29 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Manenti in view of the IEEE Std and in further view of U.S. Patent Application No. 2003/0187606 ("Curry").

Independent Claim 29 requires, among other things, "conditioning the signal indicative of the environmental characteristic using the processor with an adaptive firmware stored in the transducer body and the processed signatures."

Applicants traverse the Examiner's statement on page 8 of the Office action that it would have been obvious to modify Manenti to store transducer signatures on memory, as taught by the IEEE Std. As discussed above with respect to Claims 1 and 16, the universal unique identification (UUID) for each individual smart transducer interface module (STIM) taught by the IEEE Std does not teach or suggest "transducer signatures" that identify a broader category of the type of transducer.

As noted by the Examiner on page 8 of the Office action, Manenti does not teach or suggest a method for conditioning the signal indicative of the environmental characteristic using the processor with an adaptive firmware stored in the transducer body and the processed signatures. Applicants respectfully submit that the IEEE Std also does not teach or suggest this limitation.

Curry does not cure the deficiencies of Manenti and the IEEE Std. Curry teaches a heat production (BTU) meter 18 including a printed circuit board 11 that contains "all the necessary electronic circuitry for control, measurement, data processing, firmware, data storage, and communications to external devices." (Curry, paragraph [0036].) Applicants respectfully traverse the Examiner's statement on page 9 of the Office action that it would have been obvious to modify Manenti to condition the environmental characteristic using the processor with firmware, as taught by Curry. The only type of meter taught by Curry is a heat production (BTU) meter 18. As a result, there is no teaching, suggestion, or motivation to alter Curry to condition the signal coming from the BTU meter 18 according to another environmental

characteristic using adaptive firmware, because the only environmental characteristic that will ever be measured by the BTU meter 18 is heat production.

None of Manenti, the IEEE Std, or Curry, either alone or in combination, teaches or suggests "conditioning the signal indicative of the environmental characteristic using the processor with an adaptive firmware stored in the transducer body and the processed signatures," as required by Claim 29. Accordingly, independent Claim 29 and dependent Claims 30-41 are allowable.
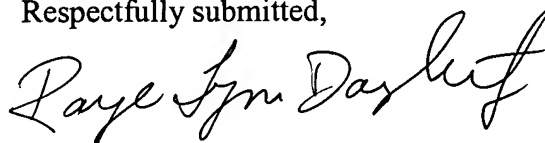
Dependent Claims 30-41

Claims 30-41 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Manenti in view of the IEEE Std and further in view of Curry. Claims 30-41 depend from Claim 29, and are therefore allowable for the reasons set forth above with respect to Claim 29. Claims 30-41 specify additional patentable subject matter not specifically discussed herein.

CONCLUSION

In light of the above remarks, Applicants respectfully request reconsideration and allowance of Claims 1–41.

Respectfully submitted,

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